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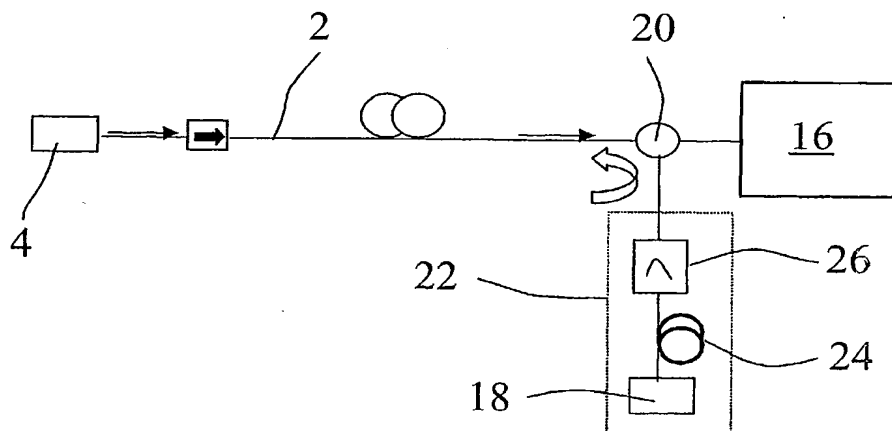
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(54) Title: COUNTER-PUMPED DISTRIBUTED RAMAN AMPLIFICATION IN WAVELENGTH DIVISION MULTIPLEX OPTICAL COMMUNICATION SYSTEMS



(57) Abstract: A Raman pump module (22) for generating pump radiation having a pump wavelength ( $\lambda_p$ ) for coupling into a transmission fibre (2) of an optical wavelength division multiplex WDM communication system to provide Raman amplification of WDM radiation counter propagating there through is disclosed. The pump module is for use in a communications system in which the WDM radiation has a transmission waveband ( $\lambda_s$ ) and wherein the transmission fibre (2) has a zero dispersion wavelength ( $\lambda_m$ ) lying midway between the transmission waveband and the pump wavelength. The module (22) comprises a Raman pump laser (18) for generating the pump radiation and decorrelating means (24) for de-correlating the longitudinal modes of the pump radiation before it is coupled into the transmission fibre.



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